

**REMARKS CONCERNING THE AMENDMENTS**

The above amendments have been made in this response specifically as suggested by the Examiner in the Final Office Action. As these amendments were specifically suggested and requested by the Examiner, they should be entered without objection.

**The Examiner is hereby authorized to cancel claims 11-17, as directed towards a non-elected invention upon allowance of the remaining claims in this Application.**

## **SUMMARY OF OFFICE ACTION**

1. A restriction requirement has been memorialized in the Office Action. Applicants have confirmed the original election.
2. Claims 5, 6 and 10 have been rejected under 35 USC 112, second paragraph as being indefinite.
3. Claims 1-5, 7-10 and 18 been rejected under 35 USC 103 as unpatentable over WO/00/07883 (Schumann) and WO 00/30963, Koehlinger et al. (US 3,920,122) and Boreali (US 5,573,621) and further in view of Evans (U.S. Patent No. 3,565,750) and the AWA article on "Controlling costs challenge label stock...".
4. Claims 6, 19 and 20 have been rejected under 35 USC 103 as unpatentable over WO/00/07883 (Schumann), in view of WO 00/30963, Koehlinger et al. (US 3,920,122) and Boreali (US 5,573,621) (as applied directly above) wh and AWA when further considered with Nedblake (U.S. Patent No. 6,592,693).

**RESPONSE TO THE ISSUES RAISED IN THE OFFICE ACTION AND**  
**ARGUMENTS AGAINST THE REJECTIONS**

1. A restriction requirement has been memorialized in the Office Action.  
Applicants have confirmed the original election.

Applicants have fully responded to and confirmed the restriction requirement in this response.

2. Claims 5, 6 and 10 have been rejected under 35 USC 112, second paragraph as being indefinite.

These claims have been amended to remove the ambiguity, or the rejection was in error when originally made.

Claim 5 was cancelled in the previous amendment filed by Applicant, so the rejection cannot be made on a canceled claim.

Claim 6 has been amended to replace “comprises” with “consisting essentially of” as indicated as proper claim form.

Claim 10 definitely further limits the scope of claims 1 and 2 (combined) as neither claim makes any reference to bending the composite to lift a portion of the label and then to further remove the label from the liner. This rejection was clearly in error.

3. Claims 1-5, 7-10 and 18 been rejected under 35 USC 103 as unpatentable over WO/00/07883 (Schumann) and WO 00/30963 (Loehmann), Koehlinger et al. (US 3,920,122) and Boreali (US 5,573,621) and further in view of Evans (U.S. Patent No. 3,565,750) and the AWA article on "Controlling costs challenge label stock..."

This rejection is respectfully traversed.

This argument will begin with a discussion of the two new references cited against the claims, as these two new references have been cited in an attempt to overcome arguments presented by Applicants. The present arguments will also discuss a declaration provided by Mr. Raymond Pace, now an employee/consultant for assignee of this Application, but who has worked in the printing and label printing industry in an executive capacity for at least four years.

This declaration could not have been earlier presented as it was necessitated by the new grounds of rejection given in the Office Action mailed 30 March 2004.

**In addition to the discussion of the two new references, it must be recalled that all claims presently in the application are directed towards “linerless labels.” This is an accepted term in the art and is clearly defined in the specification. These are liners that (because of their physical structure) are not used with liners. There is a threshold burden in this rejection that is never overcome, and that is the motivation and reason for using ANY LINER with a linerless label (as recited in claims 1-10).**

Applicants have taught that the use of linerless labels on conventional liner application equipment is enabled by placing liners on linerless labels, an initial starting point in this technology that is never addressed and is a fundamental and fatal flaw in the rejection.

The two new references are the AWA article and Nedblake. The AWA article is not a technical disclosure enabling practice of the technology for which the Office Action cites it against the present claims (ultrathin liners). Rather, the AWA article is the classic reference cited for a technical wish or objective, without any disclosure that enables attainment of that objective, recognizes the difficulties and problems in obtaining that objective, and without any way of addressing those problems. The Office action states that AWA teaches “...that one of the biggest trends in labels and liners is to use thinner substrate to reduce costs and satisfy environmental need for source reduction while maintaining or improving performance and production levels.” This is a non-enabling disclosure that merely suggests a direction of research. The specification of the present application is directed towards the problem faced in attempting to attain one of these “objectives” of a thinner liner. It was found that any attempt to use a thinner liner suffered from the immediate effects of wrinkling and partial separation of the liner from the label. These deficiencies caused not only aesthetic deficiencies, but also functional deficiencies in the performance of labels in automatic application equipment. **There is no suggestion in the art that the use of mircobridging with thin liners in a step with precutting of the liner and subsequent application to the linerless label (in claims 1-10 and**

any label in other claims) would overcome these problems. These were substantive technical issues, the problems were not publicly recognized in the art, and the solution is not based upon any teachings in the art of record. Even though individual elements of the claims may have been known (e.g., liners on labels, precutting of labels before association with liners, a desirability of thin liners, microbridge cutting of labels [while they are on liners], etc.), there is no basis for specifically combining all of the elements as specifically recited in the claims to ENABLE the manufacture of a microbridge cut label on an ultrathin liner that can be automatically applied by apparatus without technical underperformance. As the invention as a whole is not taught, the rejection must fail.

The present invention as claimed precuts the label, and then applies the label to the carrier sheet. This is done in two ways that solve the problem and neither of these ways are taught in the prior art of record. In claims 1-10, a linerless label material is used. The linerless label does not ordinarily require a label, and for that reason, suffers from an additional problem, the need for special application machinery (see specification). By precutting the label, maintaining the stability of the cut label to the matrix (the surrounding material), and then applying the stable precut linerless label to a substrate carrier, the linerless label material on a carrier can be applied to substrates with conventional label application apparatus. In addition, the precutting of the label allows its application to an ultrathin label that is of lower cost than normal label liner. Absent the precutting of the label, the liner tends to wrinkle or be cut while attached to the label. This damage can cause machinery breakdown, jamming and other delays. The method of this invention therefore solves multiple problems faced in the prior art and provides a high quality low cost product.

None of the references of record suggest the use of ultrathin liners in combination with machine-applied labels and especially linerless labels. None of the references recognize the problems associated with the use of ultrathin liners with machine-applied labels. None of the references suggest the specific combination of steps that are taught by Applicants and recited in the claims for

practicing a solution to that problem. Applicants have clearly established an inventive and unobvious step.

The system of the invention therefore addresses multiple problems and solves multiple problems by practicing a system and method that is novelty and not obvious from the teachings of the references.

The printing industry and particularly the label aspects of the printing industry are extremely cost-conscious. Pressure is regularly placed on printers to lower their competitive bids to win marginally profitable contracts. Bid differences of a fraction of a percent are extremely important. Using the method of the invention, the cost of manufacture (by reduction of material costs in the liner) can be reduced by as much as 5%. The label printer using this technology could easily cut costs to the customer by 2-3%, putting himself in a very competitive situation, while at the same time increasing his profit margin by 3-2% because of the reduced costs. The technical advantage of being able to finally use ultrathin liner materials is extremely important to the industry. No one else, including major suppliers, coaters and label manufacturers have been able to achieve this success. The method and the results are novel, a technical advance, and display an inventive step. The problem was to reduce costs without altering existing label stock and without reducing product quality. Only Applicants by the claimed process have been able to accomplish this.

This recitation of thickness is quite important for a number of technical standpoints. First, the use of such a thin liner layer saves significant amount of material costs and reduces pollution of the environment by using less discardable material. The use of such ultrathin liner creates significant problems, however. Within a broad range of technical areas, the only known use of such thin liner is on roofing shingles where the liner is hand stripped from the shingle before application. The shingles are rough, uneven materials where the presence of wrinkles is insignificant, and from which the liner is hand peeled.

In the application of labels to surfaces by automated apparatus, it is essential that surfaces and combinations of layers provide uniform thicknesses and the absence of wrinkles. This capability has never been before provided on linerless label stock. There are multiple reasons that Applicants have discovered

why the problem exists and why the present combination of steps enables a solution to the problems. Because the liner is so thin, it is highly flexible, subject to wrinkling, and does not provide physical support to the label. Additionally, thin liners are substantially weaker than industry standard liners and tend to break on standard label applicators when used with traditional cutting means (where labels are cut while attached to liners). The WO references faced this problem with the label itself, and artificially used individual "thin" layers by combining multiple layers (e.g., the stiffening layers and then adhesively securing the stiffened polymer layers) to provide a label material that could be used. No recognition of the use of thin liner material was ever considered, but the only solution for the use of thin layers provided by the references was to thicken the layer by adding additional layers.

One of the significant times when problems arise in the use of liners and particularly thin liners as recited in the present invention, is in the cutting of labels. ALS and Loehmann cut the label while it is on the temporary carrier. This is described, for example, in Loehmann as part of the operation shown in Figure 7 on pages 5 and 6 of the reference. It is specifically stated that

"The shape of this interruption in the cutting tool, however, is important from the standpoint of the height of the cutting edge. In individual cases, it may be appropriate to have the interruption in the cutting edge correspond to its height, but in many cases it is advisable for the interruption not to extend to the height of the cutting tool. This is expedient when, for example, the outer contour of the flat form is to be punched completely from a multi-layer strip-shaped material, for example, but is to be punched with only connecting bridges in a layer beneath that."

The problem is the inability to precisely control the thickness of the cut so that it would pass completely through the label layer (and not leave partial cuts between the bridges), yet not cut the liner layer. With the recited thin liner layer of the invention, the criticality of the cut is increased, as the layer is thinner, any cutting contact would damage a significant portion of the thickness of the liner, and almost any significant contact with the cutter would shift or wrinkle the thin liner. More Importantly, the cutting contact would tear the release liner, causing adhesive to ooze through to the back of the adjacent substrate in a wound up

roll. This would cause the materials to stick together, eliminating the possibility or normal label dispensing. Also, the cutting contact against the liners would weaken the release liner to the point where it would break on the label applicator, shutting down the applicator line. Even those skilled in the art have been unable to provide a solution to this problem in the application of thin liner layers. The fact that the claimed technology of this application provides a solution to a problem that has faced the industry for years and enables the use of such ultrathin liners evidences the strong technical advance and inventive step accomplished in this invention.

These are significant problems that are uniquely solved by a) first cutting the label, so that there cannot be any cutting impact on the liner, b) then associating the cut label with the ultrathin liner, and c) then using the combined cut label/ultrathin liner composite in a mechanical applicator. This specific step ordering enables the use of the ultrathin liner, saving costs, reducing volume of waste, and preventing wrinkling that would pose problems during automated label application, and eliminates the possibility of cutting the liner, which would otherwise cause blocking and web breaks on the label. This combination of steps and materials recited in the claims shows that a previously unidentified problem has been solved by a unique combination of steps with those materials.

4. Claims 6, 19 and 20 have been rejected under 35 USC 103 as unpatentable over WO/00/07883 (Schumann), in view of WO 00/30963, Koehlinger et al. (US 3,920,122) and Boreali (US 5,573,621) (as applied directly above) wh and AWA when further considered with Nedblake (U.S. Patent No. 6,592,693).

This rejection is respectfully traversed for the reasons provided directly above and for the additional reasons presented below.

In the second method (claim 18) label material is first printed, adhesive applied, then cut (leaving microbridges to stabilize the label to the matrix), and then laminated to a carrier sheet. Again, this is distinct, novel, and unobvious technical advance over the showing of the combination of references. By cutting the label before the application of the label material to the carrier, a more precise

cut of the label can be assured without any potential damage to the carrier layer. Additionally, the microbridging is sufficient to stabilize the label-matrix sheet, yet enable it to be used in a conventional label applicator. The label applied from this system will not have rough edges because the microbridges tear cleanly and do not leave a rough edge (see specification). Although Nedblake teaches the use of thinner liners (e.g., 0.75 mils, 0.019 mm), this is not done with linerless label (and no reason is provided for using linerless label) and is not done with microbridge cutting. Nedblake is also limited to laser cutting as an enabling cutting step, and does not teach microbridging.

The Declaration of Mr. Raymond Pace

This declaration, by one with extensive knowledge of the label and label-plus-liner industry, provides evidence that one with executive knowledge in the art is unaware of any products that provide thin (less than 0.5 mil) liners with any label products and particularly not with linerless label products. Additionally, the declarant recognizes the technical difficulties in providing such thin liners on labels and indicates his belief that only through the combination of steps and technologies in the process recited in the present claims of SAdvanced Label Systems have consistent quality thin (less than or equal to 0.5 mils) liners be applied to labels.

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## CONCLUSION

The present claims are patentable over the prior art cited in the rejections. All pending claims are allowable. The Examiner is authorized to cancel all non-elected claims upon allowance of claims 1-10 and 18-20 by way of an Examiner's amendment. If there are any issues that the Examiner believes can be addressed by a telephone communication, the Examiner is courteously invited to call the attorney of record at **952.832.9090**

Authorization is hereby given to charge any additional fees or credit any overpayments that may be deemed necessary to Deposit Account Number 50-1391.

Respectfully submitted,  
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Date: 30 June 2004 By:   
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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Amendment and the papers, as described herein, are being deposited in the United States Postal Service, as first class mail, with sufficient postage, in an envelope addressed to: MAIL STOP: AF; P.O. BOX 1450; Commissioner for Patents, Alexandria, VA 22313-1450 30 JUNE 2004.

Mark A. Litman  
Name

  
Signature